

VI. BROADCAST LICENSEES SHOULD BE AUTHORIZED TO TRANSMIT DATA WITHOUT PRIOR COMMISSION APPROVAL

29. In its *NPRM*, the Commission proposed that “licensees be allowed to transmit acceptable data signals without prior Commission authority or notification, but not be allowed to relinquish to the data or program supplier the right to delete the data.” *NPRM* at ¶ 26. The Commission’s proposal in the *NPRM* follows its *de facto* adoption of this proposal in an earlier decision with respect to the special data transmission system (“SDTS”) proposed by NBC, Inc.^{18/} In permitting NBC to transmit ancillary data in the VBI *without* prior FCC authority, the Commission noted that no prior authorization was necessary “[b]ecause we find that the SDTS signal does not degrade the broadcast signal in any discernible way.”¹⁹ Nielsen strongly supports the continuation of this Commission’s policy that Commission authorization is *not* required prior to the transmission of data over broadcast frequencies so long as such transmissions do not degrade the main channel broadcast.

30. Nielsen’s experience in obtaining its authorization to transmit AMOL code Line 22, and in seeking authorization on behalf of licensees, exemplifies the difficulties resulting from the Commission’s prior-authorization requirement. In spite of the facts that: (i) other parties had been issued authorizations virtually identical to that sought by Nielsen; (ii) Nielsen’s transmissions were necessary to prepare ratings

^{18/} Letter from Jane E. Genster, National Broadcasting Company, Inc., to Roy J. Stewart, Chief Mass Media Bureau, Federal Communications Commission (December 23, 1991).

¹⁹ Letter from Roy J. Stewart, Chief Mass Media Bureau, Federal Communications Commission, to Jane E. Genster (March 3, 1992).

and had the support of the broadcast, advertising and programming industries;^{20/} and (iii) there was not a scintilla of evidence that Nielsen's usage would inhibit others' similar usage, Nielsen was required to expend *hundreds of thousands* of dollars in legal fees and related expenses, and incur what has amounted to a *six-year delay* in receiving permanent authorization to transmit AMOL codes on Line 22, because of this pre-authorization requirement. In addition, the Commission was forced to dedicate substantial resources and attention to the issues raised by Nielsen's competitors uniquely against Nielsen. While there is no *single instance* known to Nielsen where the Commission has denied its authorization to transmit data over the active video signal, where it was shown that such transmission would not degrade main-channel programming and otherwise served the interests of the respective licensees, the Commission's prior authorization requirement was utilized by Nielsen's competitors to delay Nielsen's implementation of new technology.

31. Moreover, Nielsen supports the Commission's policy which recognizes that the licensees bear ultimate responsibility for their broadcasts, and must therefore retain the power to decide the content of those broadcasts. It is unnecessary for the

^{20/} All of the following parties filed comments in support of Nielsen's Petition for Authority to Use Line 22: International Advertising Sales; Fries Distribution Company; Media Insight; MasterCard International; Saatchi & Saatchi Advertising; Barris Program Sales; Britsol-Myers Company; America's Leading Indies' Network; SMY Media, Inc.; McCaffrey and McCall, Inc.; Delco Electronics Corporation; Beatrice/Hunt-Wesson Foods; Viacom Enterprises; Electra Pictures; Paramount Pictures Corporation; Warner Bros.; Turner Broadcasting Sales, Inc.; Buena Vista Television; GTG Marketing; NW Ayer Incorporated; Multimedia Entertainment; Griffin Bacal, Inc.; Nabisco Brands, Inc.; SMS, Inc.; Banfi Vintners; MCA TV, Inc.; Raycom; DDB Needham Worldwide Advertising; Della Femina, McNamee WCRS, Inc.; Twentieth Century Fox Film Corporation; National Advertiser Sales; Henderson Advertising, Inc.; J. Walter Thompson; Lintas; Campbell-Ewald; Werwick Advertising, Inc.; Radio Shack; Worldvision Enterprises, Inc.; Sachs, Finley & Company; Applied Information Management, Inc.; Ogilvy & Mather; Ebony Jet Showcase; Action Media Group; Medialink; E&J Gallo Winery; MGM/UA Telecommunications, Inc.; Beecham Products, USA; and IMS Agency Information Services, Inc.

Commission to change its current rules and policies with regard to licensees' obligations and abilities to control their transmissions. In a recent rule making proposal, the Commission sought to balance a network-affiliated station licensee's ability to control its broadcasts with the network's profitability.²¹ The Commission similarly should balance a licensee's clear right to control its broadcasts with a programmers' right for comfort that, once approved by the licensee, data transmission will remain in the broadcast as long as those transmissions do not degrade the broadcast.

32. Nielsen thus supports the Commission's proposal that licensees "not be allowed to relinquish to the data or program supplier the right to delete data." *NPRM* at ¶ 26. However, Nielsen requests that the Commission clarify that such a requirement does *not* prohibit licensees from agreeing through contract to transmit data. As indicated above, Nielsen's codes are incorporated into programming at the time of its origination and throughout the distribution of the program. Licensees are fully informed of the existence of these codes at the time they seek and obtain the right to broadcast this programming, and at all times retain the right to refuse to broadcast Nielsen's codes or to broadcast the programming at all. 47 C.F.R. § 73.658(e) In this way, licensees retain all necessary authority to control their broadcasts, and thus to be held responsible for the content of those broadcasts pursuant to existing FCC rules and

²¹ Notice of Proposed Rule Making, *In the Matter of Review of the Commission's Regulations Governing Programming Practices of Broadcast Television Networks and Affiliates*, MM Docket No. 95-92, __ FCC Rcd __ (released June 15, 1995).

policies. While it is unclear whether the Commission intended to specifically propose in the *NPRM* that licensees be granted *additional* rights to delete data at the time of broadcast, Nielsen respectfully suggests that such special provisions are not required.

33. It cannot reasonably be questioned that the Commission has a valuable and important role in assuring that transmissions over broadcast frequencies do not undermine or degrade the use of those of frequencies for their principal purpose. However, as indicated above in ¶ 24, *supra*, the Commission's interest in protecting the video signal from degradation can be accomplished by a simple codification of the non-degradation requirement inherent in its present *ad hoc* authorizations for use of Line 22. The Commission could easily require that the transmission of digital data in the active video signal shall (i) require the permission of the respective licensee, and (ii) not degrade or cause visible variations in the main-channel programming. Common practice indicates that broadcast *licensees* can most effectively evaluate whether degradation does or does not exist, and thus control data programmers' access to those frequencies. Thus, the Commission's mandate to preserve licensee's authority can be fully effectuated by rules which incorporate a requirement for broadcasters to approve the transmission of digital data signals, and that such signals shall not degrade main-channel programming.

34. If the Commission adopts its proposal to eliminate the requirement of prior authorization to transmit data and the active video signal, it could dismiss as

moot Nielsen's Petition for Permissive Authority referenced in ¶ 16 of the *NPRM*. The adoption of such a proposal would render Nielsen's Request unnecessary and effectively determine, given the Commission's prior determination that the transmission of Nielsen's AMOL codes do *not* degrade the main broadcast signal,^{22/} that Nielsen can transmit its AMOL codes from the facilities of consenting broadcast licensees. While Nielsen has set forth numerous arguments above in support of its request for a grant of its Permissive Authority, Nielsen alternatively suggests and supports the Commission's determination that such an authorization is no longer required.

VII. CONCLUSION

A.C. Nielsen strongly urges the Commission to continue its process of granting authorizations to users of Line 22 to transmit data, on an *ad hoc* basis, without imposing technical or operational standards. Such *ad hoc* authorization will permit service providers such as Nielsen to continue to provide important data transmission capability in furtherance of the public interest; anticipate and accommodate the changes brought on by compression or other innovative technology; and promote an environment where innovative technology will continue to flourish. Further, an *ad hoc* authorization process permits the Commission to protect the active video portion of a television broadcast from discernible degradation, without over-regulating an industry. Finally,

^{22/} The Commission has already determined that Nielsen's use of Line 22 "will not visibly degrade the picture presented to viewers." Letter from Roy J. Stewart, Chief, Mass Media Bureau, Federal Communications Commission, to Grier C. Raclin (November 22, 1989) (the "Nielsen Authorization") at 3.

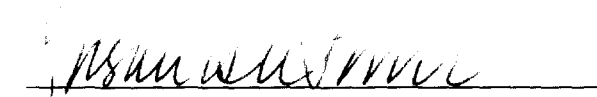
Nielsen urges the Commission to continue to permit broadcast licensees to permit the transmission of ancillary transmission without prior Commission approval. As the Commission has already held, prior approval is unnecessary unless the presence of data is detectable.

WHEREFORE, Nielsen urges the Commission to adopt regulations in accordance with the opinions and arguments as herein expressed.

Respectfully submitted,

A.C. NIELSEN COMPANY

By:



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June 23, 1995

A

Nielsen Set To Field Test Its New Meter Technology

By LINDA MOSS

NEW YORK — To evolve with the new vision environment, Nielsen Media Research later this year plans to start fielding a new technology, dubbed an "Active Passive" or "AP" Meter, which uses program encoding to track viewing. The ratings service last week unveiled and described the new metering system it devised, and has already received three patents for, at meetings for its clients in New York City and Chicago. The media industry generally reacted favorably to the new metering system, although some objected to Nielsen's plans to use proprietary encoding that other measurement companies won't be able to read. Testing and a rollout of the metering system, and installation of so-called Media Monitoring Sites in all 211 TV markets to collect data, could cost an estimated \$40 million, according to John Dimling, Nielsen's president and CEO.

Eventually, the pioneer metering technology could even be used for a commercial verification service, offering electronic proof that a spot has run, Dimling said. The new AP Meter is meant to enable Nielsen to track viewing in the coming world of interactivity, and now that a variety of new delivery systems have entered the scene, such as direct-broadcast satellite, according to Dimling.

"It's pretty clear the current [metering] system won't work in the future," he said. It won't work on video-on-demand."

Within this new technological environment, Nielsen's challenge is to report accurately what program is being tuned to on a particular channel, and it says signal encoding is the answer.

"It's a great idea," said Howard Shimmel, vice president of audience research for MTV Networks. "We've needed it for years in our industry, especially in the cable industry."

The "active" component of Nielsen's new metering system calls for individual programs and even commercials to be encoded, on both their audio and video portions. "We will be doing both," Dimling said. "On one program, there will be redundant coding."

The coding can also survive digital compression, he added.

The drawback to the encoding system, Dimling noted, is that programming distributors must be willing to encode each of their programs. And any system malfunctions could lead to a loss of viewing credit.

So Nielsen has created a passive "fail-safe" backup for its "active" encoding system, Dimling said. That backup employs

audio and video "fingerprinting" technology, capable of identifying coded and non-coded programs and commercials.

That technology, the same that Nielsen uses for Monitor Plus, involves taking an electronic signature of a program and comparing it with signatures stored in Nielsen's databases at its Media Monitoring Sites, which will be located in each market.

The monitoring sites will act as libraries, collecting passive signatures from programming. Nielsen plans to have 75 of those sites deployed by the end of this year, with the rest installed by next year.

One concern Shimmel said he has, as a programmer, is whether Nielsen's new meter will track which delivery system has carried a program to a home. For example, he would like to know whether MTV has

been brought to a particular household via DBS, or cable. Nielsen spokesman Jack Loftus said adding an additional code, which the technology permits, will allow that kind of tracking, of satellite versus cable.

Tim Brooks, senior vice president of re-

search for USA Networks, voiced some concern that Nielsen plans to use a proprietary, patented code. Other research organizations, including Systems for Measuring and Reporting Television, have come out in favor of a Universal Television Program Code that could be tracked by multiple vendors.

"Nielsen is very much talking closed architecture," Brooks said. "Do we want to cooperate in a system that makes Nielsen's monopoly even more impregnable?"

The new meters are being tested now, Dimling said. The first field tests in actual households will start later this year and into next year, he added.

"If all goes well, we'll have a system ready for a roll in 1996," Dimling said.

He added that the new meters are much simpler and non-invasive compared with current meters, since they can pick up encoded signals outside of the set.

The signal encoding can be multilevel, according to Dimling. So a TV station could do its own encoding along with a program producer.

Shimmel noted that cable, unlike the broadcast networks and some syndicators, do not benefit from Nielsen's Automated Measurement of Lineups (AMOL) system. Through special coding for AMOL, Nielsen tracks whether a local station is in fact carrying a network feed or syndicated show. But since AMOL only operates on a marketwide, not a household level, it can't be used for cable. —MCH



DIMLING

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

June 6, 1994

IN REPLY REFER TO:

Larry Laskey
Division Counsel
Nielsen Media Research
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Northbrook, IL 60062

RECEIVED

JUN 10 1994

Dear Larry:

As per our conversation, I am sending you several items which illustrate our use of audience data as well as other data.

The first item is a copy of Section 658 of the Commission's rules which deals with, among other things, the Prime-Time Access Rule and program territorial exclusivity contracts. For both of these rules we have relied on Arbitron's compilation of audience and population data for individual markets.

The second item is a copy of Section 76.54 of the Commission's rules -- Significantly viewed signals; method to be followed for special showings. To meet these requirements, parties have submitted Nielsen County/Coverage surveys or special tabulations of your routinely collected data. Section 76.54 is followed by Section 76.55 -- Definitions applicable to the must carry rules. We again use Arbitron's TV market designations, as required by the 1992 Cable Act.

The third item is a report titled "Overview of the Television Industry." It is an example of the types of informational material we compile and release to the public from time to time. It contains much data from various sources including Nielsen.

I hope this material will be helpful in reaching a decision regarding the Commission's purchase of audience data from Nielsen.

I am looking forward to hearing from you. My number is (202) 623-6302.

Sincerely,




Scott Roberts
Senior Economist
Policy Analysis Branch
Mass Media Bureau

Sworn Statement

I, Paul Kempter, being duly sworn, do state the following:

1. I am the Engineering Manager for Nielsen Media Research ("Nielsen"), with offices located at 375 Patricia Avenue, Dunedin, Florida 34698;
2. I hold an Associate's degree in Engineering from Northern Virginia Community College, and a Bachelor's degree in Engineering from Old Dominion University, and a Master's degree in Business Administration from Old Dominion University;
3. As Engineering Manager, I oversee the engineering aspect of Nielsen's program tracking technology as it interfaces with video compression system vendors, television receiver manufacturers, and Nielsen's clients which include entities from the broadcast, cable, programming, and advertising industries;
4. The factual allegations, representations, and technical descriptions, contained in the Comments, to which this sworn statement is attached, and submitted on behalf of Nielsen in the *Notice of Proposed Rulemaking*, MM Docket No. 95-42, are true and accurate to the best of my knowledge, information, and belief:


Paul Kempter

Subscribed and sworn to before me this
___ day of _____, 1995

Notary Public

My Commission Expires:

D

*Pls cc
sent to G. Raschke,
E. Rust, D. Harkins*

Little-Known Firm Introduces Product To Move Data Fast

* * *

**En Technology Inc.'s Device
Would Rapidly Transmit
Large File to PC-TV Link**

By WILLIAM M. BULKELEY

Staff Reporter of THE WALL STREET JOURNAL

En Technology Inc. unveiled a \$100 product for rapidly transmitting large amounts of data to personal computers connected to television sets — potentially breaking one of the major logjams of computerized commerce.

The technology would let publishers send whole catalogs or magazines to subscribers in minutes. Television viewers could order a software program or game they saw advertised and receive it in their home PC shortly after. TV advertisers could send out additional details on products or even coupons that people could print out, the company says.

Although little-known, closely held En Technology, based in Keene, N.H., was founded by owners of PC Connection Inc., a big mail-order distributor of computer products with more than \$250 million in sales.

The company has developed a \$100 add-in card that lets PCs receive a 3-megabyte software program or a high-resolution video clip in four minutes. Receiving such a large file over a telephone line and a standard modem takes about an hour, and for that reason is prohibitive.

Patricia Gallup, chairwoman, chief executive and co-owner of En and PC Connection, said the technology "allows the convergence . . . of the television and the personal computer." She predicted it will have broad applications in marketing, advertising, information distribution and entertainment. Ms. Gallup is also a co-owner of PCTV, a producer of computer-related cable-television shows.

Analysts who have gotten advance peeks at the product say it could be a solution to the problem of moving volumes of information to PCs. But they warned it faces a chicken-and-egg problem of getting customers to buy the product without seeing a lot of content.

"It's very compelling. It's easy to use. But they need a savvy marketing partner to capitalize on all the marketing opportunities they see for it," said Emily Green, an analyst with Forrester Research, Cambridge, Mass. "It's an incredibly interesting idea, but it leaves you scratching your head," said Brian O'Connell, an editor at Technologic Partners, a high-tech research and publishing firm in New York.

En Technology's product, code-named Malachi, receives signals sent on the little-used portion of the television signal called the vertical-blanking interval. That portion of the signal is also used for closed-captioning for the hearing-impaired, and some other companies are working on other uses for it. However, En has what analysts say is the best-developed and most ambitious application for using the capacity.

Malachi is scheduled to go on sale in the fall. By then, En plans to have installed transmission capability in TV stations that reach most of the country. The information can also be sent over cable TV. It can be recorded by an ordinary videocassette recorder and connected to a PC later, as well. En's technology is one-way, however. Unlike modem communications over a telephone line, the computer owner can't request something. En says, however, that it can send information that can be received only by a specific customer.

IN THE LAB

Wavelet Theory Spiffs Up Video In Computers

By SCOTT RITTER

Staff Reporter of THE WALL STREET JOURNAL
With digital wavelet theory, P.K. Yuen has brought Susie to life.

In a dark room packed with computer equipment, the scientist unfolds a laptop computer and clicks on an icon labeled "Susie." Instantly, she appears on the screen, flipping her blond hair back as she puts a telephone to her ear. The full-screen, full-color image smoothly and crisply replays the action over and over.

With "Susie," Dr. Yuen and his colleagues at the small, nonprofit Houston Advanced Research Center, or HARC, in The Woodlands, Texas, are running a high-stakes race: to produce high-quality video for personal computers.

Most currently available technology, capable of about eight frames a second, would present Susie's image as fuzzy and her movements jerky and out of synch. But software being developed here displays the short film 38 screens a second, giving it the look and feel of a movie. (Thirty frames a second is considered "real time," and researchers here say they revved it up to 38 frames a second "just to show off.")

To send so much data into a PC, the information must be compressed. Here, scientists have developed software based on a complicated mathematical theory that can compress pictures smaller, and do it faster, than current standards.

The implications are tantalizing. Researchers here say the technology has the potential to transform video teleconferencing to smooth, movie-quality communication. Movies on demand could become a reality more quickly. Doctors could drastically cut the amount of time and expense

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it takes to transmit X-ray images or other patient information from one hospital to another, or even within one facility. Instead of needing two CD-ROM disks to store a two-hour movie, a single disk could store four or five movies.

"I think this is a potential revolution," says Dr. William Murphy, head of diagnostic imaging at the University of Texas M.D. Anderson Cancer Center in Houston. The center is currently testing the new HARC software for medical applications, and has used it to compress X-rays and CAT scans with great success, Dr. Murphy says.

HARC, a university-linked research center created in 1982, formally unveiled the software, dubbed HARC-C, in April.

HARC-C overcomes several image-compression hurdles, like the need for expensive hardware to perform tricky computations and for big communications pipelines, or band-width, for the data to travel through. The software also helps eliminate the need for massive storage space, and disproves assumptions that high compression ratios ruin picture quality.

The software is the result of work by inventors Charles K. Chui and Dr. Yuen, both of whom hold joint appointments at HARC and Texas A&M University and specialize in a booming area of mathematics called "wavelet" theory, the force behind HARC-C.

In its simplest terms, traditional digital compression seeks to trim the amount of information needed to describe a particular image. For example, if a rose petal is described as "Red Red Red" in digital language, a technology that could instead describe the petal as "3R" would handle the image with less space and effort.

Wavelets would look at the rose petal a little differently than current technology, instead using frequency to identify the attributes of its millions of tiny bits, or pixels. Wavelets can describe an image more efficiently than current methods. HARC-C's proprietary technology optimizes the process, coding the attributes of an image that is compressed, and then remembering where to put the pieces when the picture is returned to its full size. And it manages those tasks in real time, which is about five times faster than current technologies.

HARC-C can compress a still image to 1/100th of its original size. When the picture is returned to its original size, there is no noticeable loss of clarity.

HARC-C supporters also say they will avoid having to meet world-wide standards for digital compression because they won't have to design their technology to fit certain types of hardware. Software to view the compressed material, they say, can be transmitted with the image itself.

Not everyone is convinced that HARC-C can do what it promises. "This is not the Holy Grail of video," says Elliot Gold, president of TeleSpan Publishing Corp., which puts out a weekly bulletin on video conferencing. "The rest of the world has adopted standards, and that's the dam that's going to hold back the tsunami — if they think they've got a tsunami in wavelets."

Furthermore, HARC-C could be eclipsed by a newer, more promising technology any time. On-line services are scurrying to incorporate wavelet technologies into their systems, which would make it faster and cheaper for consumers to access their offerings. Microsoft Corp., for one, says it is using wavelet technology in Microsoft Network, its planned on-line service.

So far one company, Ball Corp.'s Ball Aerospace & Communications Group, has signed an exclusive agreement with HARC to license one of the technology's anticipated applications: compressing images generated in space or from aircraft, making it possible to store more information aboard satellites and less expensive to transmit that data back to earth.

Ball Aerospace spent the better part of a year examining other compression technologies, "but the best one wasn't nearly as good as HARC's," says Senior Vice President Richard Herring.

Consumers could begin seeing the new technology in products by year's end, when it is likely to show up in CD-ROM movies and full-action computer games.

Says Thomas E. Lineham, HARC-C's project coordinator: "The important thing is for us to get the highest quality image with the deepest compression and greatest user access. Then we can freely communicate with pictures."



CERTIFICATE OF SERVICE

I, Kimberly A. Dunmire, a secretary in the law firm of Gardner, Carton & Douglas, certify that I have this 23rd day of June, 1995, caused to be sent by hand delivery, a copy of the foregoing COMMENTS OF A.C. NIELSEN COMPANY to the following:

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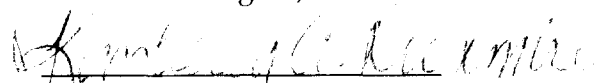
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